Teaching Open Innovation based on LSP: a practical experience

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Abstract

Teaching Open innovation is possible in a wide range of disciplines. For asking this question, a literature review is provided using social network analysis. Moreover, we have performed a practical experience focused on the use of this approach for the students of Public Administration Management, as it links perfectly with the idea of Open Government and the participation of citizens in the improvement and creation of public services. For this purpose, we have used Lego® Serious Play® (LSP) as an innovative educational tool that can contribute to promoting open innovation. We have incorporated the LSP methods in our practical labs of Bachelor courses and, in this paper, we analyse specifically the experiences held with a sample of 35 students after two years. For this part we have applied a content analysis of their reports as well as a test based on a Likert scale. Our experience with this method has been positive and we have achieved a higher efficiency in the learning objectives as well as the group innovation drive. We can conclude that this tool was helpful to experience with concepts related to open innovation.

Keywords: Open innovation, Lego Serious Play, creativity, education, public administration.

Literature review

In the model proposed by Hilgers and Ihl (2010), we can found several ways for applying the concept of open innovation to the public sector. They develop several ideas to improve the new public service development and its better fit with the citizens requirements. The participation and integration of the citizens in the government activities may relate to public value-creation and a refined decision-making process. That is, open innovation approach enriches the innovation processes and encourage organizations to create models to support different kinds of actors, information, competence and perceptions coming together in decentralized innovation platforms (Manninen et al., 2011).

Open innovation is also very close to Open Government initiatives, which come hand in hand with e-Government models. And that is because information technologies let public administrations to be closer to the citizens. In this sense, web 2.0 could be useful to a wide range of public services, as education or research (Tacke, 2010). But we should not limit Open innovation to information technologies as not all the public services are online services. This is important because Bachelor students have to be innovative in different experimental situations.

To review the literature on open innovation and education, we have used Bibliometric methodology. In our case, we obtained data from Web of Science database, though the query “open innovation AND education” in title, abstract and keywords of scientific works. Results gave us 16 articles and reviews and 27 proceedings. Results were download in text version and then imported in the software VantagePoint (Search Technology, Inc.), where cleaning of data was made. Once the cleaning was finished, tables and matrices were obtained about citations, keywords and affiliations. Evolution in the field we have analysed...
can be observed in Figure 1. The figure indicates that it is a new field, which started to appear in the year 2007.

Figure 1. Evolution in literature about open innovation & education.

With the cleaning we have obtained the literature framework, that is, the more cited references by authors who wrote about application of open innovation in education. Institutions involved in the papers and proceedings were 41. There are eight networks, formed by institutions. The two first networks are composed by institutions in USA, mainly, while in the others the European institutions are among the participants.

**Practical experience**

Critical reflection distinguishes serious play from general play (Hinthorne and Schneider, 2012). Children play for pleasure but adults play for several purposes, seeking some goals. Linder et al. (2001) identify four purposes: social bonding, emotional expression, cognitive development, and competing.

Serious play tools use different materials and LSP tries to help decision-making process using bricks as a neutral language (Mabogunje et al., 2008). Moreover, LSP results in an inclusive and democratic nature process (Swann, 2011). This research relied on empirical data collected teaching open innovation with LSP to Public Administration students in the subjects of Strategic Management and Marketing.

It was made in two stages. The first sample was of 99 3rd year Bachelor students. They were asked to discuss their experience with the tool. Furthermore, we performed a content analysis (Berg and Lune, 2012; Bernard, 2000; Weber, 1990), searching for words or phrases related to skills acquired after its use. The characteristics of LSP most valued were: its facilitation for exchanging ideas, being a different and entertaining tool and its competence to provide greater opportunities for team members to interact and participate.

For the second stage, we collected opinions of a subgroup of 35 students from the same group, but on their 4th year Bachelor. We conducted a survey with twelve questions in a Likert scale.
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1. To what extent do you consider that LSP has helped the team to understand and assume the objectives of the team?
2. To what extent has LSP helped team members to have clear team goals?
3. To what extent do you think LSP has helped the team to reach the objectives of the challenge?
4. To what extent do you think LSP has helped the team to understand the benefits of achieving team goals?
5. Do you think LSP has helped the team to get the feeling of “we're all in this together”?
6. Do you think LSP has helped team members to be informed about work-related issues (understanding the problem to solve)?
7. Has LSP helped people to feel understood and accepted by the other team members?
8. Has LSP helped the team to share information?
9. Has LSP helped team members to think innovatively?
10. Has LSP helped team members to build on the ideas of others to achieve the best possible results?
11. Has LSP helped team members to seek new ways of looking at problems?
12. Has LSP helped team members to collaborate and assist in the development and implementation of new ideas?

The average was as following (Figure 2), where we can observe how all the items were more valued than one year before:

Figure 2. Average of Likert responses

Conclusion
Our experience with this method has been positive and we have achieved a higher efficiency in the group innovation drive. After two years, the students value more all the items, specially those related to being creative and innovative. We can conclude that this tool was helpful to experience with concepts related to
open innovation, specifically in subjects related to Strategy and Marketing in Public Administrations as it is crucial the citizens’ participation.

References


